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QUANTITATIVE SOCIAL HISTORICAL RESEARCH IN THE NETHERLANDS; PAST, PRESENT AND FUTURE(*)

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Abstract: Quantitative social historical research originated in the Netherlands at the "Wageningse" school. Already in the 1950's Slicher van Bath and Associates started to analyse social, economic and cultural changes in an agricultural society from a historical-demographic point of view. Its research method was analogous to the Annales-tradition. During the 1970's the scope of quantitative social historical research got broader: first, because of the introduction of a structural methodology of historical research, secondly, because of the accelerating possibilities of computerization. The description of some actual themes under study and statistical procedures employed leads to the conclusion that quantitative social historical research, although being a useful extension of historiography, does not belong to the core of historical science. This is a serious drawback for the education of history students in this field of research. Next to that, financial resources are limited. Therefore, the futures of quantitative social historical research in the Netherlands is rather restrained.

1. Introduction

During the past 20 years, a whole array of historians as well as non-historians, excited as they were by new expanding possibilities of electronic data processing, had advocated the introduction of quantitative social historical research as a special branch of historical research. From Ustinov (1962) onwards, up to recently Rabb (1983), they all stressed the advantages of quantitative social historical research in handling a vast amount of historical data; in gathering and arranging as well as analyzing them; Answers to long-standing questions might be given; evidence in unsettled disputes and yet undiscovered areas explored. Quantitative social historical research would offer an interesting addition to our knowledge of historical reality.

But quantitative social historical research has a lot more to offer than a mere addition to the flow of historical research. To get a good picture it must be understood that quantitative social historical research can be defined in three ways:

- (1) quantitative social historical research is all social historical research in which quantitative data is used;
- (2) quantitative social historical research is all social historical research in which quantitative data form the framework of research;

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- (3) quantitative social historical research is all social historical research in which quantitative data is employed within a conceptual framework.

The first definition states that the use of quantitative data as just an illustration of assertions described before may be called quantitative social historical research. The second definition requires that the quantitative data are put in use as a starting point. Finally, the third definition requires furthermore a method of analysis, in which quantitative data are structured within a theoretical framework. This last definition thus creates the necessity to define a structural methodology of quantitative social historical research in a way that is quite different from the traditional methodology of historical research. In this respect quantitative social historical research is not only an addition, but even a total new branch of historical research, drifting into the twilight zone between history and social science.

In this article we will investigate the impact of quantitative social historical research in the Netherlands, however it may be defined. Nevertheless, it is our opinion that quantitative social historical research, defined as cliometrics, i.e. according to its third definition, is most promising. The description of past, present and future of quantitative social historical research in the Netherlands will therefore give preponderous weight to research-projects of this kind.

Doing so, we hope that our investigation of the situation in the Netherlands may serve as a case study for the development of quantitative social historical research in general.

Of old, Departments of History are settled within the "Faculteit der Letteren", a philological environment that fits well with the centuries-old tradition of descriptive, narrative history. Departments of Social or Social-economic History, however, are either a part of the History Department, or are scattered among the Faculteit der Sociale Wetenschappen, the Faculteit der Economische Wetenschappen, the Faculteit der Geneeskunde, the Faculteit van Wiskunde en Natuurwetenschappen, the Technische Hogeschool or even the Landbouwhogeschool.

In most faculties, social history subdepartments have a marginal position, and are treated by their respective faculties accordingly. Only the subdepartments of Social History that are located inside the Faculteit der Letteren have established themselves to some degree. In those departments, however, the introduction of quantitative social historical research has faced its heaviest resistance.

Nevertheless, the history of the rise of quantitative social historical research in the Netherlands followed a path that was similar to developments elsewhere; the present points of interest have foreign equivalents; its future is as insecure as in other countries. We hope to elaborate on this in the next sections.

2. Past

Although the publication of Slicher van Bath's "Een samenleving onder spanning. Geschiedenis van het platteland van Overijssel" (Slicher van Bath, 1957) generally is considered to be the beginning of quantitative social historical research in the Netherlands, this statement does not pretend to say that it did not exist before that time. On the contrary, the use of quantitative data was not uncommon among social-economic historians. In

these cases, however, data were used without exception as an illustration of statements made before.

Slicher van Bath employed his data in an other way. He didn't use them "as only an ex-post-facto proof, but also as a starting point for his analysis" of demographic, social and economic changes at the countryside of the Dutch province of Overijssel.

Main body of the book was a description of the development of the population of Overijssel; main theme of the book was the explanation of questions concerning whether, how and to what extent this demographic development had had its effect on the social and economic structure of the society, i.e. on professional structure, social stratification and division of prosperity within the agricultural society in different regions of Overijssel.

It is obvious that both internal structure and methodological structure of "Een samenleving onder spanning" fits well within the framework of the Annales-school, while the object under investigation, the long-term social and economic changes in an agricultural society, is comparable with the work of the German historian Abel.

Typical for "Een samenleving onder spanning" is its excessive use of quantitative data, its demographical starting point, its narrative elements, and its total absence of trying to test the implicitly stated assumptions about the causal relationship between demographic development and social-economic structure.

"Een samenleving onder spanning" turned out to be the first in a series of comparable research-projects into regional demographic developments and its consecutive social and economic effects in the Netherlands. Slicher van Bath, who at that time had been appointed professor in Agricultural History at the Landbouwhogeschool in Wageningen, inspired his assistants and students to contribute to the agricultural historiography of the Netherlands by taking other regions of the country under investigation. In this way quantitative historical-demographic studies were published about the Noorderkwartier (North Holland) (van der Woude, 1972), Friesland (J. Faber, 1972), and the Veluwe district (Gelderland) (Roessingh, 1965, 1976). It resulted in establishing a tradition of research that soon was labeled the "Wageningse school".

Meanwhile, Slicher van Bath expanded his field of research in both geographic and diachronic respect. With his "Agrarische Geschiedenis van West-Europa (500-1850)" (Slicher van Bath, 1960, (1963)) a provisional climax of the Wageningse school was reached.

The growing interest in quantitative social historical research, in Wageningen as well as elsewhere in the Netherlands, led to a similar growing interest in an empirical philosophy of social science. First of all, the use of an abundance of quantitative data calls for the arrangement of results in theories which are induced from them; secondly, the abundance of possible data calls for the testing of hypotheses that are constructed beforehand, and deduced from theoretical concepts, or, better, from a theoretical causal model. Both methods of research are part of the "empirical cyclus" of a structural philosophy of science.

The first historians who set up research-projects within a structural setting were in general oriented towards economic history; New Economic History, or cliometrics served as an example. Social historians, however, soon followed the same trail. The introduction of a structural philosophy of science threatened to change the character of quantitative social historical research considerably, a change not everybody welcomed. One of the historians who were sceptical about this trend was, of all people, Slicher van Bath. In a speech made in 1976 Slicher van Bath echoed the words of the nestor of economic history in the Netherlands (Brugmans, 1968) by uttering

theorizing often (unjustly) attributed to new economic historians. However, because of the summarily measurement Mokyr's book can be seen as infected by a style of theorizing, deplored by Blaug in many a new economic historian, a style "in which dramatic conclusions about the past are derived from the global measurement of a few well selected variables".(2)

Both de Jonge's and Mokyr's books stimulated a lot of further research, the tone however became different. After Mokyr more causal economic theorizing is attempted, explicitly by Bos, implicitly by most others, but these models are more of a micro-economic nature (especially Bos 1979a). Traditional models of producers behaviour apparently make it easier to visualize under which conditions entrepreneurs wish to change from technique. These models are however used to structure the narrative and are not really tested. The most notable exception is the analysis by J. de Vries of the Dutch transport system (J. de Vries, 1979). As in the book of de Jonge the empirical data are presented at a rather desaggregated level, but the scope is broader, regional variations are taken into account and the conclusions drawn are more optimistic. The identification of economic growth with industrialization has been criticized and both the inclusion of agriculture and services, and the production of more data on industries and of social indicators convey a picture of a growing and not a stagnating economy, at least from about 1825 onwards (Griffiths 1979, 1980, 1982; de Meere, 1982).

There are a few major lines discernable in current research. At the Vrije Universiteit in Amsterdam Griffiths and De Meere are collecting at a disaggregate level the data which in due time will enable to give a more adequate account of economic growth in the 19th century. The Dutch Statistical Office refrained from trespassing into the nineteenth century when compiling the usual aggregate time series just before and after the second world war. Figures on national product or income were not constructed for the 19th century, neither an index of industrial production or indices of costs of living. Some estimates have been produced since, but their empirical and theoretical base is now generally considered very weak (van Stuyvenberg, 1971, 1982; Teijl, 1971, 1978, Griffiths and de Meere, 1983).

A second and related line of research is into the functioning of the labour market and standards of living. This is partially in reply to a thesis of Mokyr and a similar one forwarded by J. de Vries (1978). Both identified relatively high wages as the stumbling block for economic development in the Netherlands.

Mokyr also grouped the Netherlands together with Ireland as countries which still suffered from subsistence crises till the middle 1840's. The higher per capital incomes of the Dutch and other differences with the Irish were offset by the "sclerotic economy" of the country (Mokyr, 1980). Work has been done on a variety of aspects as employment and unemployment, migration, wages, the distribution of income, prices, health etc. The results are only now becoming available and the conclusions are still tentative. They however fit in a view of economic growth, albeit a slow one. During the first half of the century growth was not sufficient to outstrip the supply of labour and this is reflected in wages and other indicators. At the other hand the country did not experience catalytic famines. The high mortality figures of the mid forties can only indirectly be linked with high food prices (the following is only a selection: Jansen en de Meere, 1982; Kint, 1981, Kint en van der Voort, 1980; Lucassen, 1982; de Meere, 1978, 1980, 1982, 1983; Noordegraaf, 1980; van Zanden, 1983).

3.2.3 Depression and Economic Policy

For a long time the interbellum was not a period which animated much debate among Dutch economic historians. At the one hand there was not much to complain about, Svennilson already argued that the Netherlands did not suffer from the economic arterio-sclerosis so predominant in other countries at the time (Svennilson, 1954). And in so far there was something to complain about, the verdict had been pronounced very authoritatively by Keesing in 1947. In other countries governments at least tried to cope with the depression, but in the Netherlands economic policy was according to Keesing "à la recherche des temps perdus". Instead of mitigating the situation, the government had prolonged and exacerbated the depression (Keesing, 1947).

The change of fortune in the early seventies however reactivated interest in the period directly and also indirectly. The economic models built up after the war to guide official economic policy came under scrutiny, were revised and ensuigly tested also for the decades preceding the war.

The kernel of the recent debate among historians is the assessment of the economic policy pursued, but it is at least attempted to take relevant features of the Dutch economy into account (van Woestijne, 1969; Klein, 1975; Joh. de Vries, 1978). The arguments more or less follow the line that because of certain structural characteristics the Dutch economy was bound to run into serious trouble in a depression and leave the government with virtual no options. The agricultural sector was relatively important, both the agricultural and industrial sector had become technologically backward, and of course, the Dutch economy was relatively open and therefore to a large extent dependant upon events beyond her control. Given these factors, it is then argued, policy options were not existent or marginal. Nilly willy the government pursued already an expansionary budget policy (Stevens, 1976). And the government could at the most be charged with delaying too long the devaluation of the guilder.

To some extent the debate has been an echo of the discussion whether conditions or psychology conditioned Dutch economic performance during the 19th century. The former debate however has not yet had the fruitful sequel of the latter. There are only a few attempts to reconsider some of the structural features mentioned (Bos, 1979b). Seegers analyzed the inter-war cycles by focusing on the relative deviation of the trend. He also considered the kind of structural features which attract the interest of the economists mentioned below. He put forward the interesting thesis that also the cycle of the thirties fitted well in a normal Dutch pattern (Seegers, 1982).

Most systematic has been research undertaken by a team of the University of Groningen. They set out to follow the lead given by Tinbergen in the thirties and to construct a complete model of the Dutch economy and show the impact of different economic policies.

An important legacy of the depression of the thirties has been the establishment of the Central Planning Bureau (CPB) immediately after the second world war. A major function of the institute has been to help and advise governments on their economic policy, by identifying the effects of economic trends and plans with an elaborate simulation model. For a long time the CPB had a virtual monopoly on doing these exercises. Other institutes however are now able to do the exercises as well. The team from the University of Groningen has taken a simulation model from the CPB and adju-

ted it to elucidate constraints and possibilities of economic policy during the thirties. For example the model was initially constructed to do short-term (one year) predictions and the model therefore had to be given a more dynamic nature by using the predictions for one year as the input for the following. For the moment only some very tentative results are known (Drukker and Harbers, 1979; Harbers, Drukker and van der Meulen, 1983). It seems that the attempt was running into the same problems which Temin found in American econometric investigations into the depression (Temin, 1976). The modelling is easily done in a way that begs the question and alternative theories are not easily tested within one model. In this case the model is a Keynesian one and therefore a counterfactual increase in effective demand will almost with certainty lead to a decrease in unemployment. The fruitfulness of the attempt however is not only decided by this fact. The model is furthermore at the moment being refined. Among others the monetary sector is taken more explicitly into account. The time series needed, however, are not so well established as with the other variables.

Prof. Kuipers and associates, economists also from the University of Groningen have been looking at the interwar period from a different angle, shaped by the use of a different type of models.

In the seventies the CPB introduced vintage models, which reflected a change in the ongoing discussion about the causes of the current depression. In stead of stagnating aggregate demand stress was put upon too fast growing wages and too slow growing investment.

The older type of models had been based upon aggregate production functions with more or less complete substitutability of the factors of production; the vintage models restricted substitution between capital and labour completely or to a large extend.

The vintage models are primarily used by Kuipers to elucidate structural characteristics of the economy.

Comparing data on actual employment, labour supply (minus frictional employment) and capacity labour demand, alternating periods of labour and capital shortage can be distinguished. The results for the pre-war period are however not clear cut. Initially it was found that only at the end of the thirties a period of capital shortage began. A surplus of capital for most of the thirties would in itself have been a structural reason for a prolonged depression (Kuipers, 1977). After refining the model, it was however found that the shift had taken place earlier around 1930. The initial assumption of a wrong functioning of the price mechanism could be dropped. The traditional explanation of underinvestment and insufficient expenditure sufficed (Kuipers c.s., 1979).

Some distrust of this kind of modelling has been voiced also by some economists, especially monetarists. Traditionally however monetary conditions had been considered in the Netherlands more than elsewhere (Lundberg, 1968). The result of the critique is that at the moment further monetary elements are included in the models, as indicated above.

Most other research being undertaken is directed at unemployment. There is clearly not a single issue driving the research and most of it is qualitative of nature. An exception is the research by H. de Vries c.s. who try to map the regional differences between unemployment, distinguish between structural and conjunctural components and link these with the local or regional economic and social structure (H. de Vries, 1979).

3.2.4 Against the Law

The "Confessie" books are an outstanding source for quantitative research. In these books the hearing of persons suspected of a crime is recorded: The record includes the date, the suspect's name, his age and profession, the offence he is charged with, notes on the questions asked and answers given, the eventual permission to torture, the suspect's reaction to it, the sentence demanded and, sometimes, the sentence passed. The "Confessie" books have been saved in several towns in the Netherlands in a continuous series, ranging from the first half of the 16th century up to the first years of the 19th. The "Vonnis"-books are an equal valuable source for historical research for the following period.

It is obvious that the records can serve multiple purposes.

First of all, one may study changes in the means of punishment. S. Faber (1983) looked at those changes in Amsterdam between 1680 and 1811. It showed a slow, but steady trend towards a more consistent and a more humane system of punishment. Spierenburg (1978) concentrated on corporal punishment, by making an analysis of the chances to get sentenced to death for different social groups.

Secondly, one may pay attention to special groups in society: to women, working classes or children. The latter was investigated by Huussen (1981) who studied the extent to which the judicial sentence to "pueriliter castigeren" was in accordance with contemporary ideas on the education of children.

A third possibility is the analysis of special kinds of criminal behaviour. Notably those crimes that are caused by social, economic or political circumstances have raised considerable attention. Van Holthoon (1981) described for instance the emergence of "frictional" beggary next to professional beggary in the province of Groningen in times of economic depression between 1823 and 1873. He also showed that tolerance of local authorities towards beggary declined as soon as beggary started growing in volume.

Van Holthoon's conclusions were not in accordance with Gerritsma's research on criminality in Amsterdam during the years 1771-1772. Gerritsma showed that the economic basis of Amsterdam was then still strong enough to bear up against temporary economic crises and to keep a lot of people from beggary and crimes against property (Gerritsma, 1981).

In his studies on riots in Holland between 1600 and 1750, Dekker (1977 and 1982) distinguished four types of riots: tax riots, political riots, hunger marches and religious riots. The two latter types didn't occur too often, which, in the case of hunger marches, was strikingly different with the situation in surrounding countries. Some connection between type of riot and conjunctural crisis however was discernable.

One of the riots Dekker studies, was analysed in scrutinous research by van Manen and Vermeulen (1980, 1981). Between 1780 and 1800, during a period of severe economic crisis, a sharp conflict between the Orangist and Patriot factions got ahead, leading to large-scale riots in Amsterdam. Van Manen and Vermeulen have tried to differentiate between the social structure of both factions. They concluded that, although socio-economic motives were of importance for the emergence of these riots. Both factions were recruited from all social classes, thus causing a vertical political division of society.

Van Nierop's research on the image-breaking by religious protestants in 1566 and 1567 led to a similar conclusion. This rebellion was a phenomenon to which people from various social classes and with various intentions participated. It was therefore neither entirely a proletarian uprising, as some

Marxist historians had stated, nor just a religious conflict (van Nierop, 1978).

3.2.5 Towns and Cities through Storm and Shine

Urban history of Dutch towns and cities has a scope of over 1000 years. The rise and fall of the towns of the Hanseatic League along the IJssel river, the growing prosperity of the cities in Holland until the 18th century, the sharp decay of some of those cities after that period, as well as the 19th century process of urbanization gives this field of research a dynamic perspective in advance.

One should not wonder then that quite a number of historians have analyzed the subject from a social and quantitative point of view. Research is primarily oriented towards questions about the cities' inhabitants: who were they, where did they live, what occupation did they have, how did they behave demographically and did they move up or down the social ladder.

The latter issue, prime subject of Thernstrom's *New Urban History*, has in the Netherlands mainly been studied by van Dijk. In his book about Rotterdam (van Dijk, 1976) as well as in his research-project on the city of Eindhoven (van Dijk and van der Woude, 1984), both intergenerational and intergenerational social mobility patterns were under consideration. In a recent article van Dijk, Visser en Wolst (1983) compared social mobility trends in different regions in the Netherlands between 1830 and 1940. Although they didn't find any evidence of strong class divisions, their conclusions did not support the thesis of a positive correlation between industrialization and increasing social mobility.

Class divisions however did become visible when the spatial segregation of social groups was analyzed. Diederiks a.o. made such an analysis in Leiden, in the 18th century (Diederiks a.o., 1978) as well as at the beginning of the 20th (Diederiks and Tjalsma, 1979).

Speet (1978) did the same in Haarlem at the beginning of the 16th century. He was able to divide Haarlem into smaller quarters with a, for that time, fairly homogenous structure of social groups. Uitermark (1982) opposed Speet's conclusions, however, by pointing at the rather large quantities of intramigration, causing a certain diffusion of social groups in all districts.

The effects of migration on social stratification were also studied by Diederiks (1979). In Leiden, a city that was struck severely by economic crises during the 18th century, an enormous emigration of people made the number of inhabitants drop to half-size. It turned out that especially the most impoverished people, i.e. the former industrial workers and their families were the first to leave town. This kind of "deproletarianization" went on until an equilibrium between number of people and minimum levels of provisions was reached.

In a study on Amsterdam at the end of the 18th century and the beginning of the 19th, Diederiks again combined elements of population decline, economy, social structure and spatial segregation (Diederiks, 1982). Higher child mortality rates, lower birth rates but a growing number of illegal births showed the effects of an economy in decay; the same did the drop in immigration rates. Especially immigration of foreigners came to an end. The declining number of inhabitants led on the one hand to the depopulation of some Amsterdam districts, on the other hand to a steady rise of social segregation.

3.3. Statistics

Quantitative social historical research offers an extension to our knowledge

because researchers in this field have got hold of a set of statistical tools that enable them to analyse their data with growing subtlety, accuracy and speed.

In many cases, these statistical techniques still may be understood mathematically. The complexity of working with them in practice makes it impossible to get results without help of advanced computerization.

In this section some refined statistical techniques are reviewed that Dutch social historians have employed lately. Only those procedures are accounted for of which we think they contribute most to a further development of quantitative social historical research.

The statistics we review can be discerned in two groups: (1) procedures that work with variables on an interval level, and (2) procedures that work with variables on a nominal level. The most interesting prospects are, in the first case, mainly within the domain of causal, multivariate analysis; the latter group has interesting prospects because of the fact that these procedures do not need assumptions about the distribution of data and the level of measurement. Notably historical sources do not make it easy to satisfy these parametric requirements.

3.3.1 Linear and Log-Linear Analyses

When measuring the indirect and direct impact of cultural, economic, geographic and demographic variables on regional different birth rate levels in the Netherlands, 1850-1890, Boonstra and van der Woude (1984) used a path-analysis procedure to test linear relationships in a causal model.

The sociologists Bakker, Meesters, Dronkers and Schijf analyzed changes in individual careers of children at school in both the city of Groningen, 1959-1977 (Bakker, Dronkers and Schijf, 1982) and the province of North Brabant, 1952-1977 (Meesters, Dronkers and Schijf, 1982). They concluded, among other things, that although the intellectual performance of girls in the first years under consideration had been worse compared to boys, this had made up arrears at the end of the period. In spite of all this, however, the schoolboard's advice for continuation in education had become more unfavorable to girls at the same time. See also Dronkers (1983).

In their analyses they employed a causal multivariate analysis, called a LIS-REL-procedure, in which even relations between not-measured latent variables are estimated.

A multivariate analysis of cross-classified data is possible with help of a log-linear procedure. Van Poppel made use of it in his research on fertility trends in the Netherlands after WW II (van Poppel and Wilkens, 1982).

Sixma and Ultee (1983) compared the degree of "openness" in Dutch society in 1959, 1971 and 1979 by measuring the occurrence of "heterogamy", i.e. the mating of people from different social strata. In a log-linear analysis they found indeed a steady of openness, especially between 1959 and 1971.

3.3.2 Smallest Space Analysis

Smallest space statistics are used to arrange an array of variables or observations into as small a number of dimensions as possible.

Clustering is one of those statistics. From a data-set that consisted of a matrix of voting behavior of members of Parliament on several issues in 1849, Wels and Wolters (1982) employed hierarchical clustering techniques in order to search for factions within the Vergadering van de Tweede Kamer der Staten Generaal.

The result of this analysis is a matrix of distances between members of

Parliament. This matrix can serve as a starting-point for multidimensional scaling. Purpose is to refine the factions found and to appoint them with labels (for instance progressive vs. conservative, liberal vs. anti-revolutionary, or northern parts of the Netherlands vs. southern parts) according to their scores on different dimensions.

Soetendorp (1982) measured with help of a "Minkowski-metric" standardized distances between eight members of the European Common Market, the United States and the U.S.S.R on one side, and a number of Middle-East countries, including Israel, on the other. As data set he used the voting behavior of these countries at the United Nations General Meetings, 1947-1974.

A procedure that is quite similar to multidimensional scaling is "homogeneity analysis". It is a kind of factor analysis for multiple cross-classified data. Purpose of this procedure is again to search for a solution with a smallest number of dimensions. Brezet and Blockmans employ homogeneity analysis in a current study of political careers in medieval society.

3.3.3 Other Procedures

1. Network analysis

Network analysis is a method to induce a network of links between observations from a set of observations with various characteristics. As soon as one observation shares a characteristic with another, a link between those observations is induced. Schijf (1980) made use of network analysis in his research on interlocking directorates of the Amsterdam business elite at the beginning of the 20th century. Duffhues and Felling (1983) did the same in an analysis on intellectual ties within the Dutch Roman Catholic elite, 1945-1980.

2. Simulation

Simulation procedures have received a hearty welcome, especially among econometrics-oriented historians. In the Netherlands, Drukker and Harbers (1978) have rebuilt a model of Dutch economy during the years 1920-1940 using a systems-dynamics approach of simulation. Other kinds of simulation research like a discrete-stochastic one have to our knowledge not yet been used by Dutch historians, although the prospects of this kind of research are very promising.

3. Theil-coefficient

In economic research, often a Gini-coefficient is put in use to measure the distribution of inequality in society.

In his study on income and wealth inequalities in the Netherlands, de Meere used a "Theil-coefficient" instead. The Theil-coefficient is a statistic that deals not only with inequalities between categories, but also with inequalities within each category.

3.4

One can observe a lively interest in quantitative social historical research in the Netherlands. This interest notably is aroused by the development of more refined statistics and the availability of better computer systems. Both development have made it possible to dig into historical sources at more depth than it used to be, thus adding to the knowledge of historical reality.

At the same time these very developments may obstruct a growing interest in quantitative social historical research. Quantitative social historical research may demand such a kind of specialization that it will become un-

comprehensible for all other historians, even for those social historians who take a potential interest in its methods.

This danger is even more serious if (1) quantitative social historical research is not realized amidst fellow historians, but at the periphery of numerous Faculties, so that (2) therefore quantitative social historical research cannot be judged to full extent by historical science, and so (3) history students do not get a chance to improve their statistical and methodological knowledge.

4. Future

The future of quantitative social historical research in the Netherlands depends on four conditions. Some of them have been mentioned in section 3.4. The conditions are:

1. the interest in quantitative social historical research by social historians
2. the interest in quantitative social historical research by social history students
3. the financial possibilities for quantitative social historical research
4. the instrumental possibilities of quantitative social historical research

Ad. 1 the interest in quantitative social historical research by social historians.

This condition is strongly related to the question about the domain of social history. As we know a sharp dispute exists between people who define social history as "the history of society" and people who define social history as "the historiography of the labour movement". In the Netherlands both types of definitions are used; sometimes even within one History Department. If one chooses for the latter definition one automatically chooses for a method of research that is not only emancipatory, but also interpretative and narrative. Quantification plays only a minor role. If one chooses for the former definition, then a structural method is within reach, thus enabling quantification to play a major role.

It is not a direct consequence of opting for the first definition that also quantification is chosen. Because (1) even within these Social History Subdepartments a creative, narrative scientific tradition is cherished, and (2) historians do fear the uncreative world of scientific modeling. Both arguments have the same source, namely unfamiliarity with the possibilities and impossibilities of quantitative methods of research. It is obvious that non-historians who do quantitative social historical research are not inhibited by such fears.

Ad 2. The interest in quantitative social historical research by history students

Interest of students in social history is rather big: in the Netherlands approximately 40 percent of all history students specializes in this direction. This does not mean that 40 percent of all history students gets acquainted with quantitative social historical research. The causes have already been stated above. The effects are that (1) staff-members do not have an overwhelming knowledge of methods, statistics and computerization, and (2) social history curricula don't have much room for the introduction of elements of quantitative social historical research.

Although statistics courses indeed are available for social history students, they are often not mandatory, of rather a low level and not

updated to modern standards.

The Subfaculteit Maatschappijgeschiedenis at Rotterdam is an exception to this rule: here statistics and methods of social science are an integral part of the study. In Utrecht a course in "histo-informatic" is offered (Breure, 1982). Its goal however is mainly towards computerized qualitative textual analysis.

Ad 3. The financial possibilities for quantitative social historical research

In the Netherlands, two governmental resources are available for scientific historical research:

1. A first resource is directed at research groups. The amount distributed depends on the governmental approval of research-groups' plans for future research. When approved these research groups are supported for some years; if not, only limited funds are given. Quantitative social historical research groups, scattered among different Faculties, are not in a favorable position, because the size of a research group is one of the factors which enhances the chance of receiving governmental support.
2. A second resource, is meant to support individual research projects. Most social history projects are approved for financial support after a judgement by two committees of historians. The statistical elements of quantitative social historical research projects of course are generally hard for them to judge. Not surprisingly, projects with a rather vague statistical design are as successful in acquiring financial support as projects with a more elaborate design. Some social history projects are judged by sociologists. In the light of a growing interest in the extension of social science with a historical dimension, the possibilities for financial support are in this case better.

Because of its marginal position within various Faculties, and because of its inclination to hide from historical scientific judgement, it is rather difficult for quantitative social historical research to acquire financial support. In future it may become even harder, if the actual trend in governmental reduction of expenses continues.

Ad 4. The instrumental possibilities for quantitative social historical research

Quantitative social historical research with computerization will become almost a *sine qua non*. The future therefore will be affected by conditions concerning easy access to computerization.

1. presence of adequate computer-systems

Most academic research groups have access to the facilities of a University Computing Centre. This access can be optimized when sufficient input and output devices are within direct reach of researchers: terminals, teletypes, printers and microprocessors that are linked with the network of the mainframe computer. Most faculties nowadays are rather well equipped.

The absence of input and output devices at History Departments in the Netherlands, however, is striking. Only Utrecht and Nijmegen, as well as the Subdepartment of Agricultural History in Wageningen are sufficiently equipped. Since these devices aren't that expensive any more, it is

strongly recommended to realize a better equipage inside History Departments.

2. presence of adequate computerprograms and packages

The presence of a mainframe computer at a University Computing Centre implies a large supply of programming languages and statistical packages. Especially statistical packages like SPSS or SAS are widely used within quantitative social historical research. Unfortunately enough, quantitative social historical research not seldom implies a statistical program that is not included in those packages. This fact is first of all caused by the inclination of historians towards a method of data-entry that is as near to their source as possible, leading to a structure of data that often does not match with the data input matrix a statistical package presupposes. In the second place, quantitative social historical research has some fields of research that are not covered by statistical packages. This is the case for instance for research on the relation between time-series, and for record linkage procedures.

3. availability of a data base

The most time-consuming part in quantitative social historical research is data-collection. The attractiveness of this kind of research will increase if computer data-sets are made available for further analysis. Data that has been analyzed already can be used for secondary analysis by merging various data-sets. Provided that original data sets are well archived and made accessible for further research, a data base can be formed. A data base is most promising when data sets are collected with the same units of analysis, for instance counties or provinces. Data bases of this kind are archived in several countries. In the Netherlands, the University of Amsterdam has founded a "historisch-ecologische databank" including social, demographic, economic and geographic characteristics of all Dutch municipalities from 1800 onward.

So the outlook of quantitative social historical research in the Netherlands is none too bright: little financial support, little know-how inside Historical Departments, little possibilities to educate a reasonable number of students. Only if one is able to meet some requirements, a positive change is within reach. The requirements are:

1. the appointment of people who are experts in statistics, mathematics, methodology and/or computerization; people who are able to lecture students as well as to support other members of the staff in their research.
2. the raising of financial resources in order to get easy access to a computer-system by putting input and output devices inside Historical Departments.

To get the biggest effect of all, it is however required that the quantitative social historical researchers of today produce such results with their analyses, that other (social) historians eventually value quantitative social historical research as an important new branch of historical science.

FOOTNOTES

- *) We wish to thank Harry Jansen and Anton Schuurman for their valuable comments on several items that were relevant to our study.

- 1) The description of current research projects in section 3.2 might give the impression that this statement is incorrect. However, our choice of "capita selecta" has caused the sample of research projects to be biased in this respect.
- 2) M. Blaug, *The Methodology of Economics or how Economists Explain*. Cambridge 1980: Cambridge University Press, p. 195.

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